

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332050-927

Luminaire Tested: **S123DIP-S1165D365U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332050-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D365U927-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4882.9 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

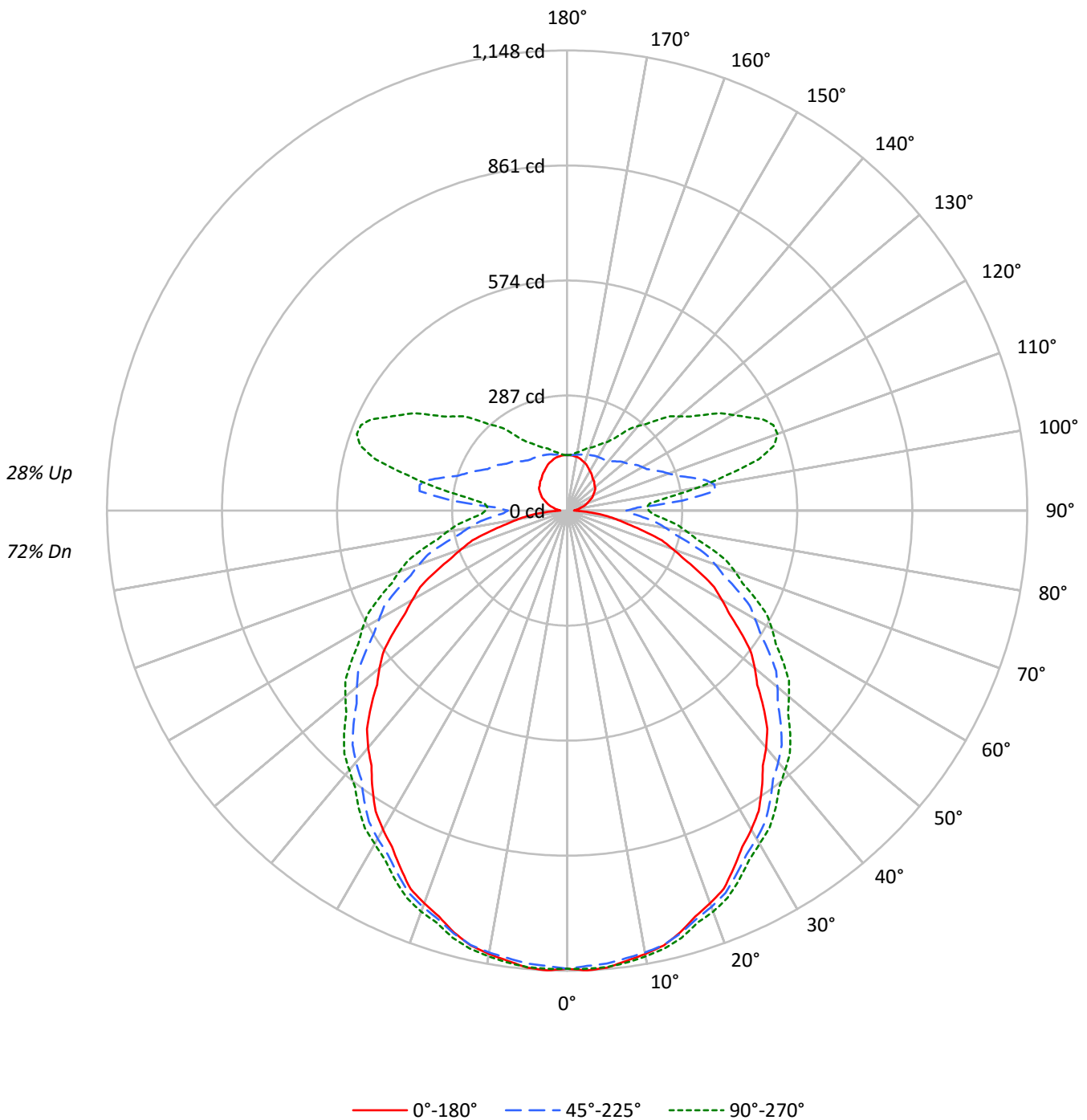
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	112	112	112	112	107	107	107	107	96	96	96	86	86	86	76	76	76	72
1	101	96	91	87	96	91	87	83	82	79	76	73	71	68	65	63	62	58
2	92	83	76	70	86	79	73	67	71	66	61	63	59	56	56	53	51	47
3	83	73	64	58	78	69	62	56	62	56	51	56	51	47	50	46	43	39
4	76	64	55	49	72	61	53	47	55	48	43	49	44	40	44	40	36	33
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	31	29
6	64	51	42	36	61	49	41	35	44	37	32	40	34	30	36	31	28	25
7	59	46	38	32	56	44	36	31	40	33	28	36	31	26	33	28	24	22
8	55	42	34	28	52	40	32	27	37	30	25	33	28	24	30	25	22	20
9	51	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	18
10	48	35	28	23	46	34	27	22	31	25	20	28	23	19	26	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12304	12304	12304
5°	12343	11994	12001
10°	12232	11718	11659
15°	12075	11405	11287
20°	11849	11047	10876
25°	11571	10634	10444
30°	11287	10264	10006
35°	10967	9871	9658
40°	10663	9514	9284
45°	10325	9172	8985
50°	9990	8832	8655
55°	9622	8486	8359
60°	9263	8134	8056
65°	8896	7758	7694
70°	8341	7336	7323
75°	7640	6853	6946
80°	6835	6380	6515
85°	6085	6053	6268



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.4	2.2
10°-20°	308.9	6.3
20°-30°	462.0	9.5
30°-40°	551.8	11.3
40°-50°	577.3	11.8
50°-60°	541.7	11.1
60°-70°	452.5	9.3
70°-80°	323.7	6.6
80°-90°	194.1	4.0
90°-100°	198.1	4.1
100°-110°	306.9	6.3
110°-120°	273.8	5.6
120°-130°	205.0	4.2
130°-140°	150.1	3.1
140°-150°	103.9	2.1
150°-160°	70.2	1.4
160°-170°	41.2	0.8
170°-180°	13.4	0.3
0°-30°	879.3	18.0
0°-40°	1431.1	29.3
0°-60°	2550.1	52.2
0°-90°	3520.4	72.1
90°-120°	778.8	16.0
90°-150°	1237.7	25.3
90°-180°	1363.0	27.9
0°-180°	4882.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1144	1142	1134	1144	1143	108
15°	1090	1093	1092	1104	1103	307
25°	984	996	1000	1015	1016	453
35°	847	866	883	901	906	529
45°	692	722	753	776	787	534
55°	528	569	614	646	658	473
65°	365	414	468	504	518	360
75°	198	257	319	358	375	212
85°	61	124	189	230	244	64
90°	17	81	148	189	204	12
95°	23	94	289	209	207	21
105°	42	89	318	521	496	45
115°	64	94	238	472	539	63
125°	84	100	200	356	416	75
135°	96	114	173	276	320	74
145°	108	122	156	206	231	67
155°	121	131	152	172	179	56
165°	132	136	145	154	156	37
175°	138	138	139	141	141	13
180°	138	138	138	138	138	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1148.1	1147.5	1146.8	1146.1	1145.4	1144.2	1142.5	1140.7	1138.9	1137.2	1138.9
5°	1144.4	1143.8	1143.3	1142.7	1142.2	1141.1	1139.4	1137.7	1136.1	1134.4	1136.6
7.5°	1133.1	1133.3	1133.4	1133.5	1133.6	1132.9	1131.2	1129.7	1128.1	1126.4	1129.2
10°	1123.2	1123.8	1124.3	1124.9	1125.5	1125.0	1123.6	1122.2	1120.9	1119.4	1122.2
12.5°	1111.3	1112.0	1112.8	1113.6	1114.4	1114.3	1113.3	1112.4	1111.4	1110.5	1113.0
15°	1089.6	1090.4	1091.2	1092.1	1092.9	1093.2	1092.9	1092.7	1092.3	1092.1	1094.9
17.5°	1062.2	1063.8	1065.5	1067.1	1068.8	1069.6	1069.5	1069.4	1069.3	1069.1	1071.7
20°	1042.3	1043.9	1045.6	1047.3	1048.9	1050.0	1050.6	1051.1	1051.7	1052.3	1054.7
22.5°	1021.4	1023.0	1024.7	1026.4	1028.0	1029.2	1030.0	1030.8	1031.5	1032.3	1035.5
25°	983.7	986.5	989.3	992.0	994.8	996.6	997.4	998.2	999.1	999.9	1003.5
27.5°	945.9	949.0	952.2	955.4	958.5	961.0	962.7	964.5	966.3	968.0	971.1
30°	919.0	922.6	926.1	929.8	933.3	936.3	938.5	940.7	942.9	945.2	948.5
32.5°	889.1	893.1	897.1	901.2	905.2	908.7	911.6	914.5	917.3	920.2	923.8
35°	846.8	851.2	855.6	860.1	864.5	868.5	872.1	875.7	879.2	882.9	887.0
37.5°	801.9	806.9	811.9	816.9	821.9	826.6	831.0	835.4	839.9	844.3	849.0
40°	772.1	777.1	782.0	787.0	791.9	797.3	802.8	808.3	813.8	819.4	824.1
42.5°	739.2	745.3	751.4	757.4	763.5	769.4	775.2	780.9	786.7	792.5	797.6
45°	692.4	699.0	705.6	712.3	718.9	725.7	732.6	739.5	746.5	753.4	758.6
47.5°	643.3	650.8	658.3	665.9	673.4	681.1	689.0	697.0	704.9	712.8	718.7
50°	611.4	619.2	626.9	634.6	642.4	650.5	659.2	667.7	676.3	684.8	691.3
52.5°	577.6	585.7	593.9	602.1	610.3	619.2	628.6	638.0	647.5	657.0	663.6
55°	528.0	537.1	546.2	555.4	564.5	574.0	584.0	594.0	604.0	613.9	621.4
57.5°	479.7	489.2	498.7	508.2	517.8	528.0	538.8	549.8	560.6	571.6	579.1
60°	445.8	455.7	465.7	475.7	485.6	496.3	507.6	519.0	530.4	541.7	549.5
62.5°	413.9	424.1	434.3	444.5	454.6	465.7	477.8	489.7	501.8	513.8	521.5
65°	364.9	375.7	386.4	397.2	408.1	419.5	431.7	443.9	456.1	468.2	476.5
67.5°	315.1	326.5	337.9	349.4	360.8	372.8	385.2	397.6	410.0	422.4	431.4
70°	280.2	292.1	304.0	315.8	327.8	340.4	353.6	366.9	380.2	393.5	402.3
72.5°	248.3	260.2	272.1	284.0	295.9	308.7	322.4	336.1	349.9	363.6	372.7
75°	198.0	211.0	224.0	237.0	250.0	263.4	277.3	291.1	304.9	318.8	327.9
77.5°	154.2	167.3	180.4	193.5	206.6	220.1	234.1	248.0	262.0	275.9	285.6
80°	123.3	136.8	150.4	164.0	177.5	191.5	205.9	220.3	234.6	249.1	258.5
82.5°	96.4	110.2	124.0	137.8	151.5	165.7	180.3	195.0	209.5	224.1	233.5
85°	61.0	74.9	88.7	102.5	116.4	130.6	145.3	159.9	174.6	189.3	198.7
87.5°	33.3	47.1	61.0	74.9	88.9	102.9	117.2	131.5	145.8	160.0	169.4
90°	16.7	30.9	45.0	59.4	73.5	87.9	102.8	117.8	132.8	147.7	156.9
92.5°	18.7	32.6	47.1	61.6	76.1	93.3	114.5	140.5	166.2	175.8	174.4
95°	23.2	34.9	48.7	64.2	82.3	105.4	142.8	198.0	257.5	289.3	266.5
97.5°	28.4	38.4	50.6	64.5	81.4	104.6	140.2	200.2	289.7	371.6	397.8
100°	31.9	41.0	51.9	64.6	80.2	102.0	134.3	188.4	274.8	373.4	436.7
102.5°	35.6	44.1	53.8	65.4	79.5	99.7	129.8	177.5	255.6	352.9	432.7
105°	42.5	49.9	58.2	68.2	80.2	98.2	125.2	165.9	230.7	318.5	406.5
107.5°	48.5	54.9	62.2	71.1	81.8	98.3	122.9	158.1	212.1	287.2	367.6
110°	52.8	58.6	65.0	73.1	82.9	98.7	122.4	154.7	203.3	269.5	343.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	57.8	62.7	68.2	75.3	84.2	99.2	121.5	151.9	195.5	255.0	321.1
115°	63.6	68.0	73.0	79.1	87.2	101.5	122.1	149.1	187.6	238.1	293.3
117.5°	70.5	73.8	77.2	81.9	89.3	102.0	121.8	146.4	180.0	224.1	272.5
120°	74.4	76.6	79.4	83.6	90.3	102.6	121.8	145.4	176.1	216.7	261.0
122.5°	78.7	80.2	82.3	86.1	91.9	104.0	122.6	144.7	173.2	210.1	250.7
125°	83.5	84.1	85.8	88.8	94.2	105.8	123.6	143.9	168.7	200.5	236.3
127.5°	88.2	88.7	90.5	93.4	99.0	109.7	125.8	143.5	165.3	192.0	222.7
130°	91.1	91.7	93.9	97.0	102.6	112.7	127.5	143.7	163.3	186.4	214.4
132.5°	92.3	93.3	96.0	100.0	105.8	115.3	128.8	143.6	160.7	181.2	206.2
135°	96.0	96.8	99.7	103.5	109.2	118.1	129.8	142.4	156.6	173.4	194.9
137.5°	99.4	100.4	103.2	107.4	113.0	120.8	130.9	141.6	153.3	166.8	185.0
140°	100.9	102.3	105.1	109.6	115.2	122.6	131.6	140.8	151.1	162.6	178.8
142.5°	103.6	104.6	107.3	111.1	116.5	123.0	131.1	139.4	148.5	158.1	172.5
145°	107.9	108.4	110.7	114.6	119.1	125.4	132.7	140.2	148.1	156.5	167.6
147.5°	111.1	111.5	114.0	117.6	122.2	127.7	134.4	141.2	148.1	155.4	163.7
150°	113.9	114.2	116.5	120.1	124.0	129.0	135.5	141.4	148.1	154.6	161.5
152.5°	116.8	116.9	119.1	122.3	125.8	130.6	136.2	141.8	147.4	153.4	159.7
155°	121.2	121.2	122.9	125.7	128.8	132.7	137.4	142.0	146.7	151.5	157.0
157.5°	124.7	124.9	126.3	128.7	131.3	134.4	138.2	142.2	145.8	149.7	154.0
160°	127.4	127.4	128.5	130.7	132.7	135.5	138.9	142.2	145.3	148.4	152.0
162.5°	129.4	129.4	130.3	132.1	133.8	136.2	139.1	142.0	144.4	147.0	150.0
165°	132.4	132.1	132.7	134.1	135.2	137.2	139.4	141.4	143.1	145.0	147.3
167.5°	134.7	134.4	134.7	135.7	136.5	137.8	139.3	140.9	141.7	143.0	144.7
170°	136.0	135.5	135.8	136.6	137.2	137.8	139.1	140.2	140.9	141.6	143.1
172.5°	137.0	136.6	136.7	137.3	137.6	137.9	139.1	140.1	140.1	140.5	141.5
175°	138.0	137.8	137.4	138.0	138.0	138.3	138.9	139.4	139.1	139.1	139.7
177.5°	138.6	138.3	138.1	138.3	138.3	138.3	138.6	138.9	138.6	138.3	138.6
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1140.7	1142.5	1144.2	1145.0	1144.8	1144.5	1144.3	1144.1
5°	1138.8	1141.1	1143.3	1144.2	1144.0	1143.7	1143.4	1143.1
7.5°	1131.9	1134.7	1137.5	1138.8	1138.4	1138.0	1137.7	1137.4
10°	1125.0	1127.8	1130.5	1131.6	1131.1	1130.5	1130.0	1129.4
12.5°	1115.6	1118.2	1120.7	1121.7	1121.1	1120.5	1120.0	1119.4
15°	1097.6	1100.3	1103.1	1104.4	1104.1	1103.8	1103.6	1103.3
17.5°	1074.1	1076.7	1079.1	1080.1	1079.8	1079.4	1079.0	1078.6
20°	1057.2	1059.7	1062.2	1063.6	1063.8	1064.1	1064.4	1064.7
22.5°	1038.6	1041.8	1044.9	1046.4	1046.2	1046.1	1045.9	1045.8
25°	1007.1	1010.7	1014.3	1016.1	1016.1	1016.1	1016.1	1016.1
27.5°	974.2	977.3	980.4	982.1	982.3	982.5	982.8	983.0
30°	951.8	955.1	958.4	960.0	960.0	960.0	960.0	960.0
32.5°	927.3	930.9	934.4	936.5	937.2	937.9	938.5	939.1
35°	891.2	895.3	899.4	902.1	903.2	904.4	905.5	906.5
37.5°	853.7	858.4	863.1	865.9	866.8	867.7	868.5	869.4
40°	828.8	833.5	838.2	841.1	842.2	843.3	844.4	845.5
42.5°	802.8	807.9	813.1	816.4	817.9	819.5	821.0	822.6
45°	763.9	769.1	774.4	778.2	780.4	782.6	784.8	787.0
47.5°	724.6	730.6	736.5	740.3	742.0	743.7	745.4	747.1
50°	697.6	704.0	710.3	714.5	716.4	718.4	720.3	722.2
52.5°	670.2	676.8	683.3	687.9	690.2	692.6	695.0	697.4
55°	628.8	636.3	643.8	648.6	650.9	653.1	655.3	657.5
57.5°	586.6	594.1	601.7	606.7	609.3	612.0	614.6	617.1
60°	557.1	564.9	572.7	578.1	581.1	584.2	587.2	590.3
62.5°	529.3	537.0	544.8	550.1	552.9	555.7	558.6	561.3
65°	484.8	493.1	501.5	506.9	509.7	512.5	515.2	518.0
67.5°	440.5	449.6	458.7	464.4	466.8	469.1	471.3	473.7
70°	411.2	420.1	428.9	434.7	437.5	440.3	443.0	445.8
72.5°	381.8	390.9	399.9	405.8	408.6	411.4	414.2	416.9
75°	337.1	346.2	355.3	361.6	364.9	368.2	371.5	374.8
77.5°	295.2	304.8	314.5	320.5	323.1	325.7	328.2	330.7
80°	267.8	277.3	286.7	292.8	295.6	298.3	301.1	303.8
82.5°	243.0	252.4	261.7	267.8	270.6	273.4	276.2	278.9
85°	208.1	217.5	226.9	233.0	235.8	238.5	241.3	244.1
87.5°	178.9	188.3	197.8	204.0	206.7	209.5	212.4	215.1
90°	166.5	176.2	185.9	192.6	195.0	198.1	201.1	203.6
92.5°	174.7	179.0	186.0	190.4	192.4	194.2	197.0	199.0
95°	241.2	217.3	211.0	206.7	204.1	204.4	205.2	206.8
97.5°	382.0	340.2	312.4	284.5	266.6	256.7	251.9	252.3
100°	454.5	439.8	415.0	380.7	355.2	337.5	329.4	332.4
102.5°	474.2	481.3	470.0	450.1	430.9	417.5	411.1	407.4
105°	472.8	508.6	521.7	519.4	509.1	500.9	494.5	495.6
107.5°	441.4	494.2	526.2	541.1	543.8	542.6	542.0	541.9
110°	414.9	473.6	516.1	540.3	550.4	554.8	556.5	558.2



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CATALOG NUMBER: S123DIP-S1165D365U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	387.6	447.3	493.8	523.6	540.4	549.8	554.4	556.9
115°	351.6	407.0	454.8	489.7	512.9	527.5	535.3	538.9
117.5°	322.8	371.5	415.0	450.4	474.4	490.7	500.9	504.9
120°	306.9	351.1	391.0	423.4	447.5	465.1	473.7	477.4
122.5°	293.2	333.5	370.8	401.1	422.7	438.7	448.1	452.2
125°	274.0	310.4	343.0	369.3	389.1	403.4	412.3	416.2
127.5°	256.3	288.9	318.7	342.7	360.6	373.0	381.2	384.8
130°	244.8	275.2	303.2	325.7	342.1	353.9	361.5	365.4
132.5°	233.8	262.0	288.1	309.7	325.5	337.5	344.6	348.0
135°	218.6	243.5	266.6	285.8	300.9	310.7	317.1	320.4
137.5°	204.5	225.2	245.3	262.0	274.9	284.8	290.4	293.1
140°	196.1	214.5	232.1	246.9	259.0	268.2	274.0	275.1
142.5°	187.4	203.4	218.7	231.7	242.2	250.5	256.0	257.1
145°	178.8	190.3	201.5	211.2	219.4	226.3	229.7	231.3
147.5°	172.0	180.0	187.9	194.5	200.7	205.7	208.9	210.1
150°	167.9	174.4	180.3	185.8	190.6	194.2	196.5	197.0
152.5°	165.5	171.0	176.3	180.7	184.2	187.1	188.2	188.3
155°	161.8	166.3	170.5	173.8	176.3	178.6	179.2	179.4
157.5°	157.9	161.6	164.9	167.5	169.7	171.3	171.8	171.7
160°	155.7	158.8	161.5	163.5	165.4	167.2	167.2	166.8
162.5°	153.0	155.6	158.2	159.9	161.2	162.6	162.6	162.4
165°	149.5	151.1	153.1	154.6	155.7	156.8	156.5	156.5
167.5°	146.5	147.7	148.9	149.9	150.4	151.1	150.9	150.9
170°	144.4	145.3	146.4	146.9	147.3	147.8	147.5	147.5
172.5°	142.7	143.3	144.2	144.5	144.6	145.1	144.7	144.4
175°	140.2	140.5	141.1	141.1	141.1	141.4	141.1	140.9
177.5°	138.7	138.9	139.2	139.2	138.9	139.2	138.7	138.7
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3

(END OF REPORT)